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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,913	10/29/2001	William F. Avrin	MED/US-12	7514

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EXAMINER
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MANTIS MERCADER, ELENI M

ART UNIT	PAPER NUMBER
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3737

DATE MAILED: 06/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/017,913

Applicant(s)

AVRIN ET AL.

Examiner

Eleni Mantis Mercader

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

**DETAILED ACTION*****Response to Arguments***

Applicant's arguments filed on 3/21/2005 have been fully considered but they are not persuasive. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). While Chamberlain does not teach the sensing of a changing response from the eye, Schocket teaches moving the target in order to examine the gaze of the patient as previously stated in the previous office action. Therefore, the prior art rejection is maintained. Another non-final is issued to address claims 18 and 25-29 that were inadvertently omitted on the previous action. The Drawing objection is herein withdrawn due to the persuasive argument.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-13 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chamberlain (US Patent No. 5,610,518) in view of Schocket (US Patent No. 3,897,141).

Chamberlain'518 teaches a method for noninvasive screening of a human eye for the presence of a ferromagnetic foreign body, said method comprising:

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providing at least one magnetic sensor, and means for processing sensed signals from said at least one magnetic sensor (see col. 1, lines 45-49; referring to the two Hall sensors);

positioning said magnetic sensor in proximity to an eye of the patient (see col. 1, lines 25-36; referring to bringing the magnetic sensor in the proximity of the eyes);

applying a magnetic field to said eye with an applied field source which includes a permanent magnet (see col. 1, line 49-58; referring to the magnet inducing a magnetic field); and

outputting data corresponding to the magnetic susceptibility of a ferromagnetic foreign body within said eye (see col. 1, lines 25-36 and col. 1, lines 59-67).

Chamberlain'518 does not explicitly teach moving at least one eye of the patient and sensing a plurality of responses from said eye with said magnetic sensor, at a plurality of gaze orientations. Schocket'141 teaches that in order to examine the eye of the patient for diagnosis purposes a gaze fixation target may be used to hold the patient's eye at a fixed position in order to allow the diagnostician to examine that particular eye area and then by moving the target the gaze of the patient changes allowing for a new portion of the eye to be examined, the procedure being repeated so as to examine the whole eye (see col. 1, lines 34-47 and col. 2, lines 10-42). Therefore, it would have been obvious to one skilled in the art at the time that the invention was made that Chamberlain'518 could be modified to incorporate the use of a gaze fixation target as taught by Schocket'141 in order to thoroughly examine the eyes and in order to accurately diagnose the presence and location of a foreign body. Also, one skilled in the art would repeat the measurement as taught by Schocket'141 in order to thoroughly examine the eyes of the patient for the lesion of interest or the presence of a foreign object by a gaze pattern which could

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be up or down, side to side, or moved in a random or predetermined pattern as long as each of the eyes, right and left, is thoroughly examined.

Chamberlain'518 further teaches that the measurement is proportional to the size of the ferromagnetic body (see col. 1, lines 65-67; stating that the output signal is proportional to the anomaly). Furthermore, if the size of the particle can be measured its location is necessarily determined since the location of the detector will coincide with the area of the eye location of the ferromagnetic body.

3. Claims 14-16 and 19-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chamberlain (US Patent No. 5,610,518) in view of Schocket (US Patent No. 3,897,141) and further in view of Wikswo et al. (US Patent No. 5,408,178).

Chamberlain'518 in view of Schocket'141 do not explicitly teach the use of a SQUID. The use of SQUID which includes the use of coils to measure magnetic susceptibility is well known to skilled artisans as taught for example by Wikswo et al.'178 (see col. 4, lines 5-64).

Therefore, it would have been obvious to one skilled in the art at the time that the invention was made to incorporate the use of a SQUID device in detecting foreign bodies as the SQUID is very sensitive in determining small magnetic susceptibilities thereby increasing the accuracy of the foreign body diagnosis.

Wikswo et al.'178 teaches as well known the use of a water-bag in order to increase the accuracy of the susceptibility measurement by eliminating the bulk susceptibility (see col. 3, lines 33-48).

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4. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chamberlain (US Patent No. 5,610,518) in view of Schocket (US Patent No. 3,897,141) and further in view of Taulu et al.'196 (US Patent No. 6,876,196).

Chamberlain in view of Schocket do not teach correction of measurement signals when the patient moves.

In the same field of endeavor, Taulu et al.'196 teach such a correction system wherein based on the measured magnetic signals, errors are removed which were caused due to movement (see col. 3, lines 39-59).

It would have been obvious to one skilled in the art at the time that the invention was made to have modified Chamberlain in view of Schocket based on the teaching of Taulu et al.'196 in order to correct any errors due to movement of the patient.

5. Claims 25-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chamberlain (US Patent No. 5,610,518) in view of Schocket (US Patent No. 3,897,141) and Pellicano'707 (US Patent No. 6,386,707).

Chamberlain'518 teaches a method for noninvasive screening of a human eye for the presence of a ferromagnetic foreign body, said method comprising:

providing at least one magnetic sensor, and means for processing sensed signals from said at least one magnetic sensor (see col. 1, lines 45-49; referring to the two Hall sensors);

positioning said magnetic sensor in proximity to an eye of the patient (see col. 1, lines 25-36; referring to bringing the magnetic sensor in the proximity of the eyes);

applying a magnetic field to said eye with an applied field source which includes a permanent magnet (see col. 1, line 49-58; referring to the magnet inducing a magnetic field); and

outputting data corresponding to the magnetic susceptibility of a ferromagnetic foreign body within said eye (see col. 1, lines 25-36 and col. 1, lines 59-67).

Chamberlain'518 does not explicitly teach moving at least one eye of the patient and sensing a plurality of responses from said eye with said magnetic sensor, at a plurality of gaze orientations. Schocket'141 teaches that in order to examine the eye of the patient for diagnosis purposes a gaze fixation target may be used to hold the patient's eye at a fixed position in order to allow the diagnostician to examine that particular eye area and then by moving the target the **gaze of the patient changes** allowing for a new portion of the eye to be examined, the procedure being repeated so as to examine the whole eye (see col. 1, lines 34-47 and col. 2, lines 10-42). Therefore, it would have been obvious to one skilled in the art at the time that the invention was made that Chamberlain'518 could be modified to incorporate the use of a gaze fixation target as taught by Schocket'141 in order to thoroughly examine the eyes and in order to accurately diagnose the presence and location of a foreign body. Also, one skilled in the art would repeat the measurement as taught by Schocket'141 in order to thoroughly examine the eyes of the patient for the lesion of interest or the presence of a foreign object by a gaze pattern which could be up or down, side to side, or moved in a random or predetermined pattern as long as each of the eyes, right and left, is thoroughly examined.

Chamberlain'518 further teaches that the measurement is proportional to the size of the ferromagnetic body (see col. 1, lines 65-67; stating that the output signal is proportional to the anomaly). Furthermore, if the size of the particle can be measured its location is necessarily determined since the location of the detector will coincide with the area of the eye location of the ferromagnetic body.

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Chamberlain'518 and Schocket'141 do not teach a automated diagnosis through the internet or computer network.

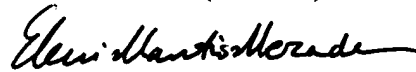
Pellicano'707 teaches a variety of diagnosis of the eye via use of the internet and a neural network (see col. 6, lines 32-49).

It would have been obvious to one skilled in the art at the time that the invention was made to have modified Chamberlain'518 and Schocket'141 and incorporated the teaching of Pellicano'707 in order to automate diagnosis.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eleni Mantis Mercader whose telephone number is 703 308-0899. The examiner can normally be reached on Mon. - Fri., 8:00 a.m.-6:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on (703) 308-3552. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Eleni Mantis Mercader  
Primary Examiner  
Art Unit 3737

EMM